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Hawkins

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[54] **EXTERNAL LIGHT SOURCE FOR BACKLIGHTING DISPLAY**

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[52] **U.S. Cl.** **362/31**; 362/27; 362/191; 362/330

[58] **Field of Search** 359/48, 49, 50; 362/26, 27, 28, 31, 327, 328, 330, 157, 226, 812, 190, 191; 40/541, 564, 582, 583

[56] **References Cited**

U.S. PATENT DOCUMENTS

2,994,971	8/1961	Meisenheimer et al.	362/26
3,132,810	5/1964	Ostensen	362/31
3,957,351	5/1976	Stockwell	359/49
4,042,919	8/1977	Patty	40/564
4,435,743	3/1984	Plumly	362/31
4,748,756	6/1988	Ross	40/564
4,775,222	10/1988	Ohe	362/26
4,830,899	5/1989	Nakahashi et al.	362/31
5,008,658	4/1991	Russay et al.	359/48
5,196,964	3/1993	Heine et al.	362/157
5,226,105	7/1993	Myers	362/31

FOREIGN PATENT DOCUMENTS

123823	7/1985	Japan	359/49
194231	8/1988	Japan	359/48

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[57] **ABSTRACT**

A method and apparatus for backlighting a transflective display within a hand-held computing device. An external light source and a power supply, dedicated to the light source, shines light through an input in a side of a computing device. The light which shines through the input is directed through the display by a light directing means. Light is conducted by a light conducting panel positioned along the back surface of a transflective display upon which text and images may be presented. The light so conducted shines through the transflective display, allowing a user to see images presented on the display even in subdued ambient light. Removal of the light source has no impact on the operation of the computing device other than to remove light which may only be necessary for viewing the display in low ambient light conditions.

11 Claims, 2 Drawing Sheets